

HANDBOOK OF PHONOLOGICAL DATA  
FROM A SAMPLE OF THE WORLD'S LANGUAGES

A Report of the Stanford Phonology Archive

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	700 Hupa	700 Hupa	700 Hupa
700	01 p <sup>30</sup> (limited)	18 t/s-hacek <sup>13</sup> [t/s-hacek-aspirated-weak] <sup>09 60</sup>	32 h <sup>22</sup> 33 h-labialized <sup>23</sup>
700	02 t [t-aspirated-weak] <sup>60</sup>	19 t/s-hacek-aspirated-labialize d <sup>13 14</sup>	
700	03 t-aspirated <sup>02</sup> [t/x-uvular] <sup>61</sup>	20 t/s-hacek-ejective <sup>11 13</sup> [t/s-hacek-ejective-syllabic] 12 34 62	51 iota <sup>41</sup> [i] <sup>73 74</sup>
700	04 t-ejective <sup>03</sup>	21 t/s-hacek-ejective-labialized 11 13 35	*[yod/ [i-long] <sup>75</sup>
700	05 c <sup>04 05</sup> [c-aspirated-weak] <sup>60</sup>	(limited) [t/s-hacek-ejective-labialize d-syllabic] <sup>12 34 62</sup>	[upsilon-trema] <sup>24 76</sup> [iota-bar] <sup>77</sup> (free) [iota-bar-nasalized] <sup>78</sup> [i-trema] <sup>79</sup> (free) [e-trema] <sup>79</sup> (free)
700	06 c-aspirated <sup>04</sup>	22 s-laminal *[s-hacek]	52 e-mid <sup>41</sup> [e-mid-half-voice-half-long] <sup>80</sup>
700	07 c-ejective <sup>03 04 05</sup>	23 s-hacek <sup>15 36 37 63</sup> (limited,allo) */s/	53 e-mid-long
700	08 k <sup>06 32</sup> (limited) [k-aspirated-weak] <sup>60</sup>	24 x <sup>16</sup>	54 a [a-half-voice-half-long] <sup>80</sup> [caret] <sup>81</sup>
700	09 k-aspirated <sup>06 32</sup> (limited)	25 x-labialized <sup>16 38</sup>	55 a-long
700	10 k-ejective <sup>03 06 32</sup> (limited)	26 m [m-tense] <sup>17 65</sup>	56 o-mid [upsilon] <sup>82</sup> [o-mid-half-voice-half-long] <sup>80</sup>
700	11 q <sup>05 07 08</sup> [q-aspirated-weak] <sup>60</sup>	27 n [n-tense] <sup>17 65</sup> [n-palatal] <sup>66</sup> (allo,neutral) [n-voiceless-tense] <sup>67</sup> (allo,neutral)	57 o-mid-long
700	12 q-aspirated <sup>33</sup> (loan)	28 eng <sup>18 39 68</sup> [eng-half-voice] <sup>69</sup> [m-voiceless] <sup>70</sup>	58 yod *[i] [yod-voiceless] <sup>25 83</sup> [yod-lax] <sup>84</sup> [yod-lax-half-voice] <sup>84</sup> (free)
700	13 q-ejective <sup>03 05 07 08</sup>	29 [20 21 [l-velarized-syllabic] <sup>71</sup>	59 w [w-half-voice] <sup>85</sup> [u] <sup>86</sup>
700	14 t/s-laminal [t/s-laminal-aspirated-weak] 09 60	30 l-fricative [t/l-fricative] <sup>72</sup> (free)	
700	15 t/s-laminal-aspirated <sup>10</sup>	31 glottal stop <sup>40</sup>	
700	16 t/s-laminal-ejective <sup>11</sup> [t/s-laminal-ejective-syllabi c] <sup>12 34 62</sup>		
700	17 t/l-fricative-ejective <sup>11</sup> [t/l-fricative-ejective-sylla bic] <sup>12 34 62</sup>		

700 \$a Hupa \$d Athapascan \$e NW California \$f 130 \$g Merritt Ruhlen \$g Jim Bauman (review)

700 \$a Golla, Victor K. \$b 1970 \$c Hupa Grammar \$f (University of California, Berkeley Dissertation)

700 \$a Woodward, Mary F. \$b 1964 \$c Hupa Phonemics \$e Studies in Californian Linguistics, ed. by William Bright \$f (UCPL 34) \$g Berkeley: U.C. Press

700 \$a LONG CONSONANTS (NON-DISTINCTIVE) \$A "As a medial syllable-initial following a short vowel, the consonant geminates and becomes the point of syllable division." (Woodward, p.200)

700 \$a STRESS \$A "Hupa syllables do not contrast phonemically in pitch or stress accent, but they do possess features of length which appear to govern other aspects of prosody. Usually the long syllable...of a polysyllabic word receives a primary stress.... When a polysyllabic word consists entirely of short syllables, there is a tendency to place a somewhat heavier stress on the penult." (Woodward, p.199-200) "Long vowels are more highly stressed than adjacent short vowels, with the long vowel of a closed syllable most highly stressed. The first syllables of a

sentence are more prominent in stress and higher in pitch than those that follow." (Golla, p.40-41)

- 700 \$a SYLLABLE \$A CV(:)(C)(C)
- 700 \$a VOWELS \$A Golla's description of Hupa vowel allophony is taken in preference to Woodward's since it accounts for vocalic distribution in a broader, less impressionistic manner.
- 700 02 \$A /t-aspirated/ is "strongly aspirated.... Aspirated stops are never found before a pause." (Golla, p.26)
- 700 03 \$A The ejective stops are "strongly glottalized. Before a pause the release is typically noisy" (Golla, p.27); "glottalized initially and finally." (Woodward, p.201)
- 700 04 \$A /c/ is described as "dorso-palatal, somewhat further front than the initial consonant of English 'key.'" (Golla, p.27)
- 700 05 \$A "In syllable-final position, both the unaspirated and glottalized velar [= palatal and uvular] stops may...be subject to a spirantal coarticulation." (Woodward, p.201)
- 700 06 \$A /k/ is described as "dorso-palatal/velar much as in English 'ken' or 'can.'" (Golla, p.27)
- 700 07 \$A /q/ is described as "dorso-back velar, considerably further back than in any English form." (Golla, p.28)
- 700 08 \$A "Both /q/ and /q-ejective/ are labialized slightly before /o/." (Woodward, p.201)
- 700 09 \$A "The release [of [t/s-laminal-aspirated-weak, t/s-hacek-aspirated-weak]] is [noisy] and followed by a brief aspiration (voiceless vocalic segment). (Golla, p.28)
- 700 10 \$A /t/s-laminal-aspirated/ has "quite noisy aspirated release." (Golla, p.28)
- 700 11 \$A The ejective affricates are "strongly glottalized." (Golla, p.29)
- 700 12 \$A The syllabic ejective affricates are "sometimes followed by a brief vocalic segment with glottal stricture." (Golla, p.29)
- 700 13 \$A /t/s-hacek/ - Golla (p.29): "lamino-palatal with shibilant release...as in English 'church.'" Woodward (p.202): "blade alveolar."
- 700 14 \$A /t/s-hacek-aspirated-labialized/ has "quite noisy aspirated release." (Golla, p.28) "The aspiration of [t/s-hacek-aspirated-labialized] is phonetically identical with [h-labialized]." (Golla, p.29)
- 700 15 \$A /s-hacek/ - Golla (p.30): "lamino-palatal shibilant...as in English 'shun.'" Woodward (p.202): "blade-alveolar."
- 700 16 \$A /x, x-labialized/ are described as "dorso-velar" (Golla, p.30); "postvelar." (Woodward, p.200)
- 700 17 \$A [m-tense, n-tense] occur "sometimes with a following murmur vowel." (Golla, p.32)
- 700 18 \$A /eng/ is described as "postvelar." (Woodward, p.204)
- 700 20 \$A "After /h/ in the words for 'frog,'...[l/l] is tense and voiceless (but without the fricative feature of /l-fricative/." (Golla, p.33-34)
- 700 21 \$A /l/ is "distinctly 'light' in articulation, that is, with the tongue position of a high front vowel." (Golla, p.32)
- 700 22 \$A "/h/ has the distinctive tongue and lip position of the preceding or following vowel." (Golla, p.31)
- 700 23 \$A "/h-labialized/ has the tongue and lip position of a high back rounded vowel." (Golla p.31)
- 700 24 \$A [upsilon-trema] may be centralized to a value approaching [upsilon-dot]. (Golla, p.37)
- 700 25 \$A [yod-voiceless] is "close to the voiceless palatal fricative of German 'Ich.'" (Golla, p.33)
- 700 30 \$A /p/ is "of rare occurrence, being restricted to a few loanwords and exclamations. In the latter case [p] may represent the symbolic form of [w]." (Golla, p.27)
- 700 32 \$A The velar stops "occur only as the result of consonant symbolism, and represent the symbolic variants of [the respective uvular stops]." (Golla, p.27-28) Woodward does not recognize velar stops.

- 700 33 \$A /q-aspirated/ "occurs rarely, appearing possibly only in loan words." (Woodward, p.200) Golla does not recognize this phoneme.
- 700 34 \$A Woodward does not mention the syllabic allophones of the ejective affricates.
- 700 35 \$A /t/s-hacek-ejective-labialized/ is "found only in a few archaic forms, usually paired with commoner forms with /t/s-hacek-ejective/." (Golla, p.29) This phoneme is not recognized by Woodward.
- 700 36 \$A /s-hacek/ "[occurs] as a symbolic form of /h-labialized/." (Golla, p.30)
- 700 37 \$A /s-hacek/ "appears phonemically only in loan words or in possibly relic forms." (Woodward, p.203)
- 700 38 \$A "While /x-labialized/ contrasts phonemically with both /x/ and /h-labialized/, it is of limited distribution. It is never found in stem syllables, but is restricted to certain prefix and postfix morphemes." (Woodward, p.203)
- 700 39 \$A "/n.w/ is [eng.w] in 'old-fashioned' forms, but normally is [eng]." (Golla, p.54)
- 700 40 \$A "Pronunciation of the /glottal stop/...varies only slightly, but its occurrence is especially marked in syllable-final position--where glottal closure is followed by a voiceless form of the preceding vowel or continuant." (Woodward, p.201)
- 700 41 \$A Golla recognizes /iota/ as the set of lax allophones of /e-mid/, occurring before consonants other than /h/ and /glottal stop/. It is treated as a separate phoneme here because of its large number of variants.
- 700 60 \$A The unaspirated stops and affricates are weakly aspirated before word boundary (pause). (Golla, p.26)
- 700 61 \$A /t-aspirated/ is realized as [t/x-uvular] in emphatic speech, especially before /a/. (Golla, p.26)
- 700 62 \$A The ejective affricates are syllabic before word boundary (pause). (Golla, p.29)
- 700 63 \$A /s-laminal/ is realized as [s-hacek] before a palatal affricate. (Golla, p.30)
- 700 65 \$A /m, n/ are tense before word boundary (pause). (Golla, p.31)
- 700 66 \$A /n, eng/ are realized as [n-palatal] before the palatal consonants. (Golla, p.32; Woodward, p.205) (According to Woodward /m/ does not occur before palatals and velars. (p.205))
- 700 67 \$A /n, eng/ are realized as [n-voiceless-tense] between a voiceless consonant and a pause. (Golla, p.32) /eng/ is realized as [n-voiceless-tense] before an alveolar consonant, and /n/ is realized as [n-voiceless-tense] after /h/. (Woodward, p.205) (Before a labial consonant, /n/ is neutralized to [m]. (Woodward, p.205))
- 700 68 \$A /n/ is realized as [eng] before the uvular consonants or glottal consonants of a prefix. (Woodward, p.205)
- 700 69 \$A /eng/ is half-voiced before word boundary (pause). (Golla, p.32) (Woodward does not recognize this segment.)
- 700 70 \$A /eng/ is realized as [m-voiceless] as a member of a syllable-final or word-medial consonant cluster before labials. (Woodward, p.205) Golla does not recognize this segment.
- 700 71 \$A /l/ is syllabic and velarized "in final position." (Woodward, p.203) Golla does not recognize this segment.
- 700 72 \$A "/l-fricative/ is a voiceless, spirantal lateral which has at times an affricated variant [t/l-fricative] as the initial of a long syllable." Golla does not recognize this segment.
- 700 73 \$A /iota/ is realized as [i] in a sequence /iota.yod/ or /yod.iota/ preceding a vowel. (Golla, p.36-37)
- 700 74 \$A /yod/ is realized as [i] word finally after a long vowel. (Golla, p.33)
- 700 75 \$A /iota/ is realized as [i-long] in a sequence /iota.yod/ or /yod.iota/ occurring finally or before a consonant. (Golla, p.36)
- 700 76 \$A /iota/ is realized as [upsilon-trema] before or after /w/ or /h-labialized/. (Golla, p.37)
- 700 77 \$A [iota-bar] varies with /iota/ before alveolar consonants (except [n]), particularly after nasals. (Golla, p.37)

- 700 78    \$A /iota/ is realized as [iota-bar-nasalized] before nasals. (Golla, p.38)
- 700 79    \$A [i-tremal] and [e-tremal] occur as free variants of /iota/ before uvular consonants. (Golla, p.38)
- 700 80    \$A /e-mid, a, o-mid/ are half-voiced and half-long word finally. (Golla, p.35)
- 700 81    \$A /a/ is realized as [caret] before any consonant except /h/ or /glottal stop/. (Golla, p.36)
- 700 82    \$A /o-mid/ is realized as [upsilon] before any consonant except /h/ or /glottal stop/. (Golla, p.36)
- 700 83    \$A /yod/ is voiceless before /c/. (Golla, p.33) Woodward does not recognize this segment.
- 700 84    \$A /yod/ is lax (and sometimes half-voiced) word finally after a short vowel. (Golla, p.33) Woodward does not recognize this segment.
- 700 85    \$A /w/ is half-voiced word finally after a short vowel. (Golla, p.34) Woodward does not recognize this segment.
- 700 86    \$A /w/ is realized as [u] after a long vowel either word finally or preceding a final glottal stop. (Golla, p.34) Woodward does not recognize this segment.